FINANCIAL STRUCTURE AND RELATIVE IMPORTANCE
OF FINANCIAL INSTITUTIONS – A MALAYSIAN CASE

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SINOPSIS

Kajian ini cuba melihat peranan institusi kewangan dalam proses pembangunan kewangan dan ekonomi di Malaysia antara tahun-tahun 1960 – 1974. Analisa dibuat melalui penentuan saiz dan ciri-ciri superstruktur kewangan dan juga kepentingan relatif beberapa jenis instrumen kewangan berbanding dengan infrastruktur benar keluaran negara. Dengan menggunakan model FIR (Financial Interrelation Ratio) yang dimajukan oleh Raymond W. Goldsmith, didapati bahawa Malaysia mengalami satu masa yang baik dari segi perkembangan dan pembangunan kewangannya.

SYNOPSIS

This study investigates the relative importance of financial institutions in the process of financial and economic development in Malaysia between 1960 – 1974. The analysis begins with the determination of the size and character of financial superstructure and the relative importance of various types of financial instruments, compared with the real infrastructure of national product. Using Goldsmith's FIR (Financial Interrelation Ratio) model it was found that Malaysia had experienced a period of positive changes in the growth of financial development.

The purpose of the study is to investigate the relative importance of financial institutions in the process of financial and economic development in Malaysia between 1960-74. The analysis is through the determination of the size and character of Malaysia's financial superstructure, the relative importance of various types of financial instruments in comparison with the real infrastructure of national product.

The primary concern is the relation between the value of the total financial assets and the value of all real assets, or in short the Financial Interrelation Ratio (FIR). FIR is taken as a measure of the relative intensity of financial relation within a country at a given date. The higher the FIR the more developed financially is a country and the greater is the relative importance of financial instruments and financial institutions within it.

It has been well-established that financial development is intricately related to economic development of a nation. Therefore, a nation must facilitate growth of its financial institution in order to achieve maximum development.[1]

[1] For a detailed discussion of the reasons why the growth of financial institution is necessary, see Francis A. Lee and Maximo Eng, *International Financial Markets, Development of the Present System and Future Prospects,* (New York; Praeger Publishers, Inc. 1975), p. 12 and p. 504. See also Ronald I. McKennon, *Money and Capital in Economic Development,* (Washington D.C; The Brookings Institution, 1973).

Goldsmith argued that there is a close interrelation between a nation's financial superstructure consisting of financial assets outstanding at any particular time and its real infrastructure (tangible and productive assets). Economic development, according to him, is accompanied by an accumulation of national wealth. As this process takes place, financial assets tend to accumulate at a pace exceeding the national growth. Consequently, the ratio of financial assets to national wealth displays an upward trend.[2]

Using Goldsmith's model, the present study investigates the relative importance of financial institutions in Malaysia. Goldsmith's FIR with respect to Malaysia for the period of 1948-63 will be utilized as a basis for comparison.

Financial Interrelation Ratio – The Model

Financial Interrelation Ratio measures the relative size of a country's financial superstructure at a given point in time in its economic development. It is the ratio of the volume of financial instrument outstanding at a given point in time to the national wealth. The basic formula is:

$$\frac{F_t}{W_t} = a \, \mu \beta^{-1} \left\{ \kappa \, \epsilon \, [\, 1 + \phi \, (1 + \lambda) \,] \, [\, 1 + \nu \,] \, + \xi \right\}$$

where F_t is the value of financial instrument at time t and W_t is the national wealth at time t, a is the Gross National Product which consists of the real growth rate, y, and price level changes, Π, (deflator) It is derived from summing an infinite geometric series increasing at $y + \Pi$, stands for ($[\, y + \Pi + \Pi y \,]^{-1} + 1$) which for low value of y and Π approximates $[\, (y + \Pi)^{-1} + 1]$. μ is the monetization ratio which measures the fraction of GNP sold for money. β is the capital output ratio, k is the capital formation ratio. ϵ is the external financing ratio, ϕ is the financial intermediation ratio, λ the layering ratio, ν the valuation adjustment factor measured by stock price annual change and ξ is net foreign issue ratio.[3]

The financial interrelation ratio, thus, depends on five non-financial factors: μ, β, y, Π

and k, and five financial factor; ϵ, ϕ, λ, ν and ξ. The ratio is positively related to seven of the component; μ, κ, ϵ, ϕ, λ, ν and ξ, but negatively to three; β, y and Π. A country, thus, will have a relatively large financial superstructure i.e. one that is large in relation to the real infrastructure of national wealth if the monetization ratio, the capital formation ratio, the ratio of non-financial and financial institution issues to capital formation and the valuation adjustment factors are high. On the other hand, the financial superstructure will tend to be relatively small, other things being equal, if the real rate of growth or the capital output ratio are high or if the rise in the general price level is pronounced.

Relative Importance of Financial Institutions

This section presents the statistical evidence for some of the coefficient used in building up the equation. The discussion involves, firstly, the ratio of net issues of financial instrument to GNP for both financial and non-financial instruments outstanding at a given date to national wealth (FIR). As a basis for discussion, it is useful to look briefly at the growth rate of financial assets.

Rate of Growth of Financial Asset:

Table 1a shows that the average rate of growth is 14.5 percent at current prices, while at constant prices it is relatively low. However, the rate of change of financial assets is relatively higher than that of GNP both at current and constant prices. This reflects the fact that the rate of growth of financial institution's assets is faster than the rate of growth in GNP.

The growth rate of financial asset showed an upward trend at current prices. But the impact of inflation experienced by Malaysia make

[2] Raymond W. Goldsmith, *Financial Superstructure and Development*, (New Haven: Yale University Press, 1969).

[3] For a detail development of the formula, see R.W. Goldsmith, *The Determinant of Financial Structure*, (Paris: OECD). 1966.

Table 1a

Rate of Growth of Financial Asset and GNP in Malaysia
1960–1974

Year	Change In.GNP		Change In Financial Assets	
	Current Prices	Constant Prices	Current Prices	Constant Prices
1960	13.2	15.6	12.2	14.5
1961	12.9	10.6	8.0	5.8
1962	6.1	6.1	12.0	12.0
1963	6.5	3.4	12.6	9.3
1964	4.1	5.1	18.5	19.6
1965	9.9	9.9	11.5	11.5
1966	6.8	4.7	14.8	12.6
1967	5.2	1.2	7.4	3.3
1968	4.3	4.5	16.8	17.1
1969	9.0	9.4	17.4	17.8
1970	4.6	2.6	10.4	8.4
1971	2.6	1.0	14.7	12.9
1972	8.1	4.8	18.5	14.8
1973	27.5	15.4	28.9	16.6
1974	20.8	2.9	13.3	−3.4
Average	9.4	6.5	14.5	

Coefficient of Variation 4.94   1.92

[1] 1965 is base year

Source: Calculated form various sources of data including Bank Negara Annual Report, and
International Monetary Fund Statistic.

the growth rate very much lower at constant prices. In 1974, the growth rate at constant prices was negative compared to the rate of growth of 13.3 percent at current prices.

The range in the rate of growth of financial asset is between 7.4 − 28.7 percent with the coefficient of variation of 1.92. The higher coefficient of variation shows that there is no tendency for homogeneity growth rate, both at current and constant prices.

Table 1b shows the rate of growth of major financial institutions and its contribution to total assets. The table indicates that thrift and loan society contribute the highest growth rate on the average, followed by commercial banks, while the insurance organizations and central bank have the same growth rate on the average.

With the exception of insurance organization, the growth rate of assets of financial institutions, on the whole, shows an upward trend. The trend is dominant for thrift and loan society's assets. This was partly due to the extensive development policy of the rural economy.

The proportion of individual financial institution's assets indicates that commercial banks form the main component of financial assets. They contribute two-fifth, on the average, of the total asset, while central bank contributes only one-fifth.

Net Issue Ratio of Financial Institution:

The net issue ratio of financial assets to GNP is shown in table II. The ratio shows the

Table 1b

GROWTH RATE OF FINANCIAL ASSETS OF FINANCIAL INSTITUTIONS AND THEIR CONTRIBUTION TO TOTAL ASSETS
1960–74

Year	Central Bank		Commercial Bank		Insurance Organization[1]		Thrift and Loan Society[2]	
	Rate of Growth %	Share to Total	Rate of Growth	Share to Total	Rate of Growth	Share to Total	Rate of Growth	Share to Total
1960	8.70	26.9	18.9	38.9	8.0	22.7	13.2	11.5
61	– 1.70	24.5	11.1	40.0	15.1	24.2	6.8	11.4
62	8.00	23.6	14.1	40.8	15.1	24.8	7.3	10.9
63	7.80	22.6	2.7	37.2	13.7	25.1	25.1	56.8
64	9.60	20.9	31.0	41.1	14.3	24.2	7.7	13.8
65	12.90	21.2	6.0	39.1	19.9	26.0	11.1	13.7
66	6.80	19.7	21.9	41.5	13.3	25.7	10.0	13.1
67	– 5.30	17.3	9.3	42.2	12.7	27.0	10.2	13.5
68	19.00	17.7	20.8	43.6	10.7	25.5	14.0	13.2
69	41.10	21.2	12.0	41.6	11.1	24.2	15.5	12.9
70	6.70	20.5	9.5	41.2	12.0	24.5	17.2	13.7
71	13.90	20.4	12.9	40.6	14.0	24.4	22.0	14.6
72	20.40	20.7	19.7	41.0	15.2	23.7	18.2	14.6
73	24.40	20.0	40.6	44.7	14.0	20.9	26.8	14.3
74	9.60	19.3	13.3	44.7	12.4	20.8	20.1	15.2
Average	12.01	21.1	16.25	41.2	12.62	24.2.	17.3	13.4

[1] Include pension fund, life and general insurance

[2] Include saving banks, cooperative movements, housing credit institutions, finance companies and specialised institutions.

Source: Calculated from Annual Report Bank Negara Malaysia and IMF Statistic

TABLE II
NET ISSUES RATIO OF FINANCIAL ASSETS 1960–1974

Year	Aggregate Net Issue Ratio	Individual Financial Institution Net Issue Ratio			
		Central Bank	Commercial Bank	Insurance Organization	Thrift and Loan Society
1960	6.3	1.2	3.4	0.92	0.73
61	3.9	−0.2	2.1	1.66	0.38
62	5.9	1.0	2.8	1.80	0.41
63	6.5	0.9	0.6	1.77	3.20
64	10.3	1.2	6.5	2.01	0.66
65	7.0	1.6	1.5	2.91	0.92
66	9.4	0.9	5.4	2.19	0.86
67	5.1	−0.7	2.7	2.25	0.92
68	12.0	2.3	6.2	2.04	1.34
69	13.2	5.5	4.0	2.15	1.55
70	8.9	1.2	3.4	2.48	1.90
71	13.5	2.6	4.9	3.15	2.78
72	18.0	4.1	7.8	3.61	2.59
73	26.2	4.6	15.1	3.00	3.53
74	12.9	1.9	5.8	2.50	2.79
Average	10.6	1.87	4.81	2.30	1.64
Coefficient of Variation	2.99	1.76	2.40	2.60	2.62
Income elasticity	1.59				

Source: Calculated from various source of data taken from Bank Negara Malaysia Annual Report and IMF statistic.

following characteristics;

On the aggregate level, the ratio shows an upward trend with the average of 10.6 during 1960–74. There is a significant temporal variation within the general upward trend. The variations follow some sort of regular pattern of oscillation. Everytime it increased the rate was slighty higher than before. The higher ratio in 1973 was consistent with the higher rate of growth of GNP during the same period, but the increase was not visible on the average. The coefficient of variation for new issue ratio was 2.99. Thus, there was a wide variability in the distribution of net issue in relation to GNP.

From the individual component point of view, commercial banks issue the largest amounts of financial instrument than any other single group of financial institutions. This is partly due to their extensive expansion programmes to rural areas during these periods. The most important net issues of commercial bank comes from fixed and saving deposits while demand deposits, mostly held by domestic business enterprises and households were only one-fifth of the total new issues. The higher proportion of saving and time deposits reflects the monetary policy and saving habits of household. The monetary policy is indicated by the level of bank interest rates.

The net issue ratio contributed by insurance organization accounts only one-fifth of the total net issue. This was 9.3 percent higher than the share of thrift and loan societies. The net issue ratio of thrift and loan society was not significant but as a group it showed an upward trend.

The net issue ratio of central bank is relatively small compared to the ratio of commercial banks, but it shows an upward trend. This was partly due the increase demand in currency, reflected by the increase in currency in circulation and the contribution of financial institution reserve.

The income elasticity of net issue, measured by the ratio of annual rate of change of financial asset to the annual rate of change of GNP, is 1.59 on the average. This reflects the fact that the assets of financial institution grew faster than GNP. The income elasticities did not show any systematic pattern. Though the issue of central bank showed the lowest average income elasticity, the growth of the net issue of central bank was more rapid than GNP.

The Ratio of Domestic Non-Financial Issue:

The relative importance of financial institutions in economic growth could not be fully understood without discussing the issuance of financial instrument by non-financial sectors such as household, government and corporate sectors, since financial institutions are directly involved in financing these issuance and these intruments represent one of the two main elements of a country's financial superstructure.

The new issue of financial instruments by non-financial sector mainly consists of public and corporate securities, borrowings and advances from financial institutions and borrowing from non-financial sectors. Non-financial borrowings are excluded because of insufficient data. This does not affect the quality of the analysis because its proportion is estimated to be less than 10 percent of total new issue of these sectors.

The new issue ratio shows the following characteristics:

(a) Claims against these sectors from loan and advances amounted to only two-fifth of the total aggregate new issue. The largest contribution is the new issue from government securities which account for one-half of the new issue. Corporate new securities, however, were not all financed by financial institutions. Out of 5.9 percent of the average new issue, only a small portion is financed by them.

(b) The new issue ratio to GNP is relatively small. It is only 8.7 percent on the average. New issue ratio of loan and advances forms 3.9 percent, government securities 4.3 percent, and corporate securities only 0.5 percent on the average.

(c) The new issue ratio of these sectors do not show any definite upward pattern. Greater fluctuation is mainly caused by the fluctuation in the new issue ratio of government securities.

(d) The main claim against these sectors' instruments was mainly by financial institutions due to the large proportion of new issue ratio of loan and advances and government securities. Commercial banks are the largest single group which have a major stake in the claims. It is estimated that one-third of new issue of loan and advances were contributed by commercial bank.

(e) Corporate securities holding are mostly by households. The only financial institutions which have a stake in these issues are insurance organizations. Their holding are relatively small on the average.

(f) Government securities is the most important component new issue of financial instruments by non-financial sectors. Its new issue ratio amounts to 4.3 percent on the average, about one-half of the total new issue of these sectors. This reflects the government strategy for deficit as well as capital financing expenditure. Financial institutions are the largest group of holders, due to the liquidity requirement imposed by Bank Negara. Non-financial sectors' holding are relatively small to be of any significance. The low level of holding reflects the fact that government securities are not good instruments for investment purposes because the low level of interest rate and open market operation are not available for active trading.

Capital Formation Ratio ($k = \dfrac{k}{y}$

In a growing economy like Malaysia, the Gross Capital Formation (GCF) to GNP ratio should show a long-run tendency to rise or be maintained at a relatively high level, comfortably above the assumed ratio of Capital Comsumption to GDP. In the short run this ratio fluctuates with cyclical changes of economic activity.

The ratio of GCF to GNP and its main com-

ponent is presented in table IV. The ratio shows an upward trend, increasing form 14.9 percent to 23.5 percent. Since capital expenditure is a necessary investment for economic growth, the increased allocation of GNP to GCF gives a clear indication of economic development. On the average the GCF to GNP was 17.79 percent.

The individual sector of GCF ratio shows a variety of development trends, each having a pecularity of its own. On the whole, the ratio of private capital formation to GNP was much higher than the ratio of public capital formation to GNP. This was so because no distinction is made with respect to household and corporate capital formation ratio.

External Financing Ratio ($\epsilon = e/k$)

Another important consideration in the analysis of financial structure and financial institution development is the external financing ratio i.e. the ratio of domestic issue of financial instruments by non-financial sectors to domestic gross capital formation ratio. This ratio measures how much is the gross capital formation financed by these instruments. The external financing ratio is estimated by indirect approach i.e. by dividing the domestic new issue ratio of financial instruments by non-financial sectors by GCF ratio. The inferred value is presented in Table V.

The inferred value of the external of the external financing ratio on the average is 0.492, ranging from 0.280 to 0.867. This reflects that only one-half of the GCF is financed by these financial instruments The remaining GCF is financed by other means such as saving and external debt. However, the financing ratio of these sectors increased substantially over time. This reflects the increased role of financial institutions in helping the issuance of instruments by non-financial sectors. Between 1964—74 the portion of GCF financed by these issues was only one-third. It increased to one-half for the next four years. It increased further in 1972—74 to two-third. This reflects the increasing importance of these instruments' financing in the future.

TABLE III

NEW ISSUE RATIO BY NON FINANCIAL SECTORS AND ITS COMPONENTS: 1964–74

Year	New Issue Ratio	Aggregate Loan and Advances		Components New Issue Corporate Securities		Gov. Securities	
		New Issue Ratio	Share to Total	New Issue Ratio	Share to Total	New Issue Ratio	Share to Total
1964	5.4	2.3	42.9	0.5	9.8	2.5	47.3
1965	4.6	2.1	23.8	0.0	1.0	3.5	75.2
1966	4.8	1.9	40.5	0.5	11.2	2.3	48.3
1967	7.1	1.8	24.9	0.2	3.3	4.0	70.8
1968	8.8	3.3	37.8	0.6	6.7	4.9	55.5
1969	7.4	2.9	39.3	0.7	9.4	3.8	51.4
1970	8.1	4.3	42.7	0.7	8.2	3.2	39.1
1971	10.0	3.8	36.9	0.4	3.7	6.2	54.6
1972	12.0	5.0	41.6	0.4	3.7	6.6	54.8
1973	17.6	11.7	66.6	0.5	2.7	5.4	30.7
1974	9.4	4.7	50.1	0.4	4.7	4.2	45.3
Average	8.7	3.9	41.6	0.5	5.9	4.3	52.5

Source: Recalculated from various sources of data including Bank Negara Annual Report and IMF Statistics.

TABLE IV

GROSS CAPITAL FORMATION TO GNP 1961—1974

Year	Aggregate GCF/GNP Ratio	Public CF to GNP Ratio	Share to Total	Private CF to GNP Ratio	Share to Total
1961	14.9	6.1	41.1	8.8	58.9
1962	17.2	8.0	47.4	9.3	55.2
1963	16.8	7.7	46.0	9.1	54.0
1964	16.6	7.3	44.1	9.3	44.9
1965	16.4	7.3	44.6	9.1	55.4
1966	16.3	6.5	39.7	9.9	60.3
1967	16.6	6.4	38.8	9.2	55.4
1968	16.6	6.2	37.4	9.2	55.2
1969	14.3	5.7	39.5	8.6	59.8
1970	17.9	6.0	33.7	10.3	57.5
1971	19.6	7.2	38.3	11.2	59.0
1972	21.3	10.2	48.1	9.3	46.1
1973	20.3	9.6	47.2	9.9	48.6
1974	23.5	9.5	40.4	12.2	52.0
Average	17.74	7.41		9.71	

Source: Calculated from various sources of data: Bank Negara Annual Report and Quarterly Economic Bulletin, Bank Negara Malaysia.

Table V

External Financing Ratio 1964—1974

Year	Domestic New Issue Ratio	GCF Ratio	Inferred Value of External Financing Ratio
1964	5.4	16.6	0.325
1965	4.6	16.4	0.280
1966	4.8	16.3	0.294
1967	7.1	16.6	0.428
1968	8.8	16.6	0.530
1969	7.4	14.3	0.517
1970	8.1	17.9	0.453
1971	10.4	19.6	0.536
1972	12.0	21.3	0.563
1973	17.6	20.3	0.867
1974	9.4	23.5	0.400
Average	8.7	17.74	0.492

TABLE VI

COMPONENTS OF FINANCIAL INTERRELATION RATIO 1960–1974

Year	GNP Current Prices (y + Π)	GNP Constant Prices (Y)	Deflator (Π)	Monetized[1] GNP (75%) (μ)	Capital[2] Formation Ratio (k)	External[3] Financing Ratio (ε)	Financial[4] Intermediation Ratio (φ)	Layering[5] Ratio (λ)	Foreign[6] Issue Ratio (ξ)
1960	13.2	15.6	− 2.10	78.48	na	na	na	na	na
1961	12.9	10.6	2.10	88.64	.149	na	na	na	na
1962	6.1	6.1	0.00	94.03	.172	na	na	na	na
1963	6.5	3.4	3.03	100.17	.168	na	na	na	na
1964	4.1	5.1	− 0.95	104.29	.166	.325	.861	.071	.037
1965	9.9	9.9	0.00	114.57	.164	.280	1.115	.029	.037
1966	6.8	4.7	2.10	122.36	.163	.294	1.110	.099	.038
1967	5.2	1.2	3.95	128.69	.166	.428	.794	.093	.006
1968	4.3	4.5	6.20	134.24	.166	.530	.790	.078	− .007
1969	9.0	9.4	− 0.40	146.31	.143	.517	.881	.083	− .003
1970	4.6	2.6	1.91	152.97	.179	.453	.832	.084	− .001
1971	2.6	1.0	1.58	156.88	.196	.536	.809	.074	− .026
1972	8.1	4.8	3.21	169.63	.213	.563	.960	.093	− .020
1973	27.5	15.4	10.55	216.32	.203	.867	.835	.105	− .017
1974	20.8	2.9	17.38	261.33	.235	.400	1.023	.088	− .026
Average	9.4	6.5	2.83		.177	.492	.910	.082	.002

[1] Monetization ratio (μ) measures the fraction of GNP that is sold for money. Considering the large proportion of non-monetized sector in Malaysia's economy, I would estimate the ratio to be 0.75. The non-monetized sectors include agricultural product consumed by economic unit and service which is not paid for.

[2] From Table IV.   [3] From Table V.

[4] Financial intermediation ratio (μ) is the ratio of volume of new issue of financial instrument by financial institution to new issue of non-financial units. The new issue include deposit, insurance reserve, premium and other liabilities. The ratio is an indication of the importance of indirect financing through financial institutions to that of direct financing which takes in the from of new purchase of new issues of non-financial units. This ratio on the average is 91%.

[5] The layering ratio (λ) composed of two components. First, the volume of deposit kept by financial institution with the central bank, and second, the interbank balance includes interbank loan and advances. The net issue of this instrument is then compared to the combined total asset of these institutions. The ratio on the average was 8.2%.

[6] Net foreign issue ratio (ξ) is an additive element of FIR. The net foreign issue is the difference between the value of foreign financial assets and liabilities, which includes securities holding by foreigners, foreign investment and other claims and liabilities, excluding monetary metal. The net issue ratio was 0.002 on the average.

Malaysia's FIR:

In this section the final value of FIR is determined. The emphasis is on the systematic changes of FIR over time by comparing it to Goldsmith's FIR for 1948-63, and the reasons for these tendencies i.e. the factors that have contributed to make FIR what it is.

Table VI lists out the major components of FIR. The table presents the coefficient on yearly basis from 1960 to 1974. The computation of the final coefficients is discussed as footnote for the table.

As expected the value of FIR for Malaysia for the period between 1960-74 had increased tremendously, relative to Goldsmith estimate of 0.1941, for the period between 1948-63. The FIR value is about 0.3706. The relatively higher FIR value for 1960-74 reflects the financial development during that period. It also signifies the relative importance of financial institutions in bringing about these changes.

The data in table VI suggest that most coefficients positively related to FIR are higher in the latter period. This systematic relationship seems to exist also between the negatively correlated coefficients, especially the "a" coefficient and the capital output ratio.

The higher level of the coefficients that are positively related to FIR for 1960-74 period is clearly evident for external financing ratio, capital formation ratio, financial intermediation ratio and layering ratio. These higher positive changes clearly indicate the greater performance of the financial institutions in issuing financial instruments and promoting financial development.

CONCLUSION

The Financial Interrelation Ratio for Malaysia between 1960 to 1974, as expected, had increased substantially from that of 1948-63. This reflects the significant role of financial institutions in promoting financial development during that period.

The important role of financial institutions could be traced from the fact that their total assets had grown significantly. It had an average growth rate of 14.5 percent. Its income elasticity showed that the financial assets of these institutions had grown at a faster rate than that of GNP. This can only mean that the composition and liabilities of these institutions ex-

Table VI

The Components of Malaysia's FIR
1948-63 and 1960-74

	1948-63[#]	1960-74
Y	5.0	6.5
Π	− 2.8	2.83
$y + \Pi$	2.2	9.4
a	13.59	11.51*
β^{-1}	0.25	0.22[@]
μ	0.70	0.75
κ	0.122	0.177
Σ	0.400	0.492
ϕ	0.500	0.91
λ	0.04	0.82
ν	0.10	0.10**
ξ	−	0.002
FIR	0.1941	0.3706

From The Determinant of Financial Structure by R. W. Goldsmith table 5 and 8

* a is the gross national product which consists of the real growth rate and the prise level changes (deflator). It is derived from summing an infinite geometric series increasing at the ratio $y + \pi$, stands for $[y + \Pi y)^{-1} + 1]$. With y = 0.065 and Π = 0.0283, then a becomes 11.51.

@ This value of capital output ratio is an approximation. Considering 1963 figure of 4.0 given by Goldsmith, I estimate the 1974 figure of 4.5 would be appropriate. The nagative exponent β^{-1} then becomes 0.22.

** The valuation adjustment factor is measured by stock price annual change. Here Goldsmith's figure of 10% for underdeveloped countries is utilized to represent this ratio.

perienced a positive change. This change reflects the importance of these institutions either in the issuance of financial instruments or in financing the issuance of financial instruments by non-financial sectors.

Although there was a significant increase in the role of financial institutions in financial development during this period, their role was insufficient to help promote the greater need of economic development and growth. There were many institutional deficiencies which make their role less effective. The deficiencies resulting from the lack of open market operation, the small amount of corporate securities, the relatively small and ineffective money and capital market should be drastically improved. The financial institutions should play a greater role to improve these deficiencies in order to have an improved financial superstructure and hence economic growth and development.

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